

## REMARKS

In the patent application, claims 1-35 are pending. In the office action, claims 1-7, 11-13, 15, 17, 18, 28 and 30-33 are rejected and claims 8-10, 14, 16, 19-27, 29, 34 and 35 are objected to but would be allowable if rewritten in independent form.

Applicant has amended claims 8, 19 and 29 to be in independent form so as to put claims 8-10, 14, 16, 19-27, 29, 34 and 35 in condition for allowance. No new matter has been introduced.

Applicant has also amended claims 2, 3, 11-13, 15, 17 and 28. Claims 2 and 15 have been amended to be dependent from claim 3. Claim 3 has been amended to be in dependent form. Claims 11-13 and 15 have been amended to be dependent from claim 3. Claims 17 and 28 have been amended to further include the limitation of claim 3. No new matter has been introduced.

At section 2, claims 1, 2, 7, 11-13, 15, 17, 18, 28 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hekstra et al.* (EP 0 940 996 A1, hereafter referred to as *Hekstra*).

Applicant has canceled claim 1.

Applicant has amended claim 2 to be dependent from claim 3. Claim 3 is rejected by the Examiner at section 3 under 35 U.S.C. 103(a) as being unpatentable over *Hekstra* in view of *Wu* (WO 99/43161). The Examiner admits that *Hekstra* fails to disclose “information regarding whether an edge is present at a given pixel location is represented in an edge map having a plurality of pixels arranged in the same array of pixel locations as those in the original image”, but points to *Wu* for disclosing such feature. In particular, the Examiner states that *Wu* discloses Just-Noticeable-Differences (JND) Map (p.6, paragraphs 1 and 2).

It is respectfully submitted that at paragraph 1, p.6, *Wu* discloses that the contrast image differences for each frame are mapped in comparison with preceding frame. At paragraph 2, *Wu* discloses that the contrast image 1 is used as a reference for each pixel of the contrast difference image so as to select pixels from the contrast difference image in each frame. At p.5, paragraph 2, *Wu* discloses that the contrast image generator 33 generates a contrast value  $c_{ij}$  for each pixel

$a_{i,j}$  based on the maximum luminance value of the pixels in the 3x3 neighborhood area and the minimum luminance value in the same area. The contrast image is composed based on the contrast values  $c_{i,j}$ . At p.5, last paragraph and p.6, first paragraph, *Wu* discloses a contrast difference image is generated based on two contrast images. At p.6, second paragraph, *Wu* discloses applying a contrast image and a contrast difference image to the JND map circuit. Thus, JND is based on the contrast values  $c_{i,j}$ . In contrast, the claimed invention uses an edge map, and not a map that is derived from contrast images.

For the foregoing reasons, *Wu* is irrelevant to the claimed invention. Accordingly, claim 3 is clearly distinguishable over *Hekstra* in view of *Wu*. Because claim 2 is dependent from claim 3 and recites features not recited in claim 3, claim 2 is also distinguishable over the cited *Hekstra* and *Wu* references.

Regarding claim 7, applicant has amended claim 7 to include the limitation of claim 3 in that information regarding whether an edge is present at a given pixel location is represented in an edge map having a plurality of pixels arranged in the same array of pixel locations as those in the original image. For the reasons regarding claim 3 above, claim 7 is also distinguishable over the cited *Hekstra* and *Wu* references.

Regarding claims 11-13 and 15, as amended, these claims are dependent from claim 3 and recite features not recited in claim 3. Thus, claims 11-13 and 15 are distinguishable over the cited *Hekstra* and *Wu* references.

As amended, claims 17 and 28 have the further the limitation of claim 3. Thus, claims 17 and 28 are distinguishable over the cited *Hekstra* and *Wu* references.

At section 3, claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hekstra* in view of *Wu* (WO 99/43161). The Examiner states that *Wu* discloses Just-Noticeable-Differences (JND) Map (p.6, paragraphs 1 and 2).

As has been pointed out above, the JND map in *Wu* is based on the contrast value  $c_{i,j}$  for each pixel  $a_{i,j}$  computed from maximum luminance value of the pixels in the 3x3 neighborhood area and the minimum luminance value in the same area. In contrast, the claimed invention uses an edge map, and not a map that is derived from contrast values.

Thus, claim 3 is distinguishable over *Hekstra* in view of *Wu*.

As for claims 4-6, they are dependent from claim 3 and recite features not recited in claim 3. For reasons regarding claim 3 above, it is respectfully submitted that claims 4-6 are also distinguishable over *Hekstra* in view of *Wu*.

At section 4, claims 8-10, 14, 16, 19-27, 29, 34 and 35 are objected to but would be allowable if rewritten in independent form. Applicant has amended 8, 19 and 29 in independent form.

### CONCLUSION

As amended, claims 2-35 are allowable. Early allowance of claim 2-35 is earnestly solicited.

Respectfully submitted,



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